

WHAT IS CLAIMED IS:

1. A continuous method for preparing a stable dispersion or emulsion comprising the steps of a) continuously extruding in an extruder a polymer that is a solid at ambient temperatures under conditions of sufficient heat and shear to render the polymer molten; b) merging a stream of the molten polymer and a stream of a continuous phase into a mechanical disperser that is coupled to the extruder to form a dispersion or an emulsion of the molten polymer; and c) dispersing a pigment into any or all of i) the polymer in the extruder when the polymer is in a molten or semi-molten state, ii) the stream of the continuous phase prior to merging with the stream of the molten polymer, or iii) the merged stream containing the dispersion or emulsion of the polymer; wherein the polymer is self-dispersing or is stabilized in the continuous phase with a stabilizing amount of a surfactant that is added to the extruder or to the continuous phase.

2. The method of Claim 1 wherein the pigment is added to the molten polymer in the extruder.

3. The method of Claim 1 wherein pigment is added to the stream of the continuous phase prior to merging with the stream of the molten polymer.

4. The method of Claim 1 wherein pigment is added to the merged stream containing the dispersion or emulsion of the polymer.

5. The method of Claim 1 which further comprises the step of adding into the extruder a polymer that is liquid or tacky at ambient temperatures.

6. The method of Claim 1 wherein the continuous phase contains water, and the disperse phase contains an epoxy resin, a poly(hydroxyaminoether) resin, a polyurethane resin, a polyurethane-urea resin, a polyester resin, an acrylic resin, a melamine resin, a vinyl ether resin, a polyolefin, an ethylene-acrylic acid copolymer, or hybrids thereof or mixtures thereof.

7. The method of Claim 6 wherein the disperse phase contains a hybrid or a blend of an epoxy resin and a polyester resin.

8. A continuous method for preparing a stable dispersion or emulsion comprising the steps of a) continuously extruding in an extruder i) a first polymer that is a solid at ambient temperatures under conditions of sufficient heat and shear to render the polymer molten; and ii) a second polymer that is either tacky or a liquid at ambient temperature; and b) merging a stream of the first polymer and the tacky or liquid polymer with a stream of a continuous phase into a mechanical disperser that is coupled to the extruder to form a dispersion or an emulsion of the polymers, wherein the polymers are self-dispersing or are stabilized in the continuous phase with a stabilizing amount of a surfactant that is added to the extruder or to the continuous phase.

9. The method of Claim 8 wherein the second polymer is added to the first polymer when the first polymer is molten.

10. The method of Claim 8 which further includes the step of adding pigment into any or all of i) the first polymer in the extruder when the polymer is in a molten or semi-molten state, ii) the stream of the continuous phase prior to merging with the stream of the molten polymer, or iii) the merged stream containing the dispersion or emulsion of the polymer.

11. The method of Claim 8 wherein the first polymer and the tacky or liquid resins are each independently an epoxy resin, a poly(hydroxyaminoether) resin, a polyurethane resin, a polyurethane-urea resin, a polyester resin, an acrylic resin, a melamine resin, a vinyl ether resin, a polyolefin, an ethylene-acrylic acid copolymer, or hybrids thereof or mixtures thereof.

12. The method of Claim 8 wherein the first polymer and the tacky or liquid resins are each independently a polyester resin and an epoxy resin.

13. The method of Claim 8 wherein the dispersion has a volume average particle size of less than 10 μm .

14. The method of Claim 13 wherein the dispersion has a volume average particle size of less than 5 μm .

15. The method of Claim 14 wherein the dispersion has a volume average particle size of less than 2 μm .

14. The method of Claim 13 wherein the dispersion has a volume average particle size of less than 5 μm .